IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claim 8 AMEND claims 1,2,3 and 10, and ADD new claims 13-18 in accordance with the following:

1. (CURRENTLY AMENDED) A device to implant impurities into a semiconductor wafer, comprising:

a beam gun to shoot ions at a semiconductor wafer;

a pair of ion gauges;

an ion gauge controller to supply power to, and obtain information corresponding to a number of ions from, one of the ion gauges, the ion gauge controller comprising:

a pair of control inputs respectively associated with the pair of ion gauges, such that when a control signal is supplied to one of the control inputs, the ion gauge controller supplies power to, and obtains information corresponding to a number of ions from, the respectively associated ion gauge;

a control output to produce the control signal when either of the ion gauges is activated; and

a parameter output to selectively produce a parameter output signal based on a recipe selection;

a first delay circuit to connect the control output to one of the control inputs, after a delay, when the parameter output signal is on; and

a second delay circuit to connect the control output to the other of the control inputs, after a delay, when the parameter output signal is off.

2. (CURRENTLY AMENDED) A device to implant impurities according to claim 1, wherein the control output is connected to ~~a~~ an unused beam line gas output.

3. (CURRENTLY AMENDED) A device to implant impurities according to claim 2, wherein the beam line gas output is connected to ~~a~~ an unused beam line gas device~~, which is capped~~.

4. (WITHDRAWN) A device to implant impurities according to claim 1, further comprising a pair of relay circuits each connected between one of the delay circuits and one of the control inputs to connect the control output to one of the control inputs when a voltage signal is received from the delay circuit connected thereto.

5. (WITHDRAWN) A device to implant impurities according to claim 4, further comprising a hex buffer connected between each delay circuit and the corresponding relay circuit.

6. (WITHDRAWN) A device to implant impurities according to claim 1, wherein

an inverter is positioned between the parameter output and one of the delay circuits such that one of the delay circuits is turned on when the other delay circuit is turned off, and

each delay circuit comprises:

a resistor-capacitor combination to produce a constant time delay when the delay circuit is turned on; and

a discharge transistor to discharge the capacitor of the first resistor-capacitor combination when the delay circuit is turned off.

7. (WITHDRAWN) A device to implant impurities according to claim 1, wherein

the first delay circuit comprises:

a first charging transistor connected to the parameter output;

a first resistor-capacitor combination to produce a constant time delay when the first charging transistor is turned on;

a first discharging transistor to discharge the capacitor of the first resistor-capacitor combination when the first charging transistor is turned off; and

a first inverter connected between the parameter output and the first discharging transistor, and

the second delay circuit comprises:

a second charging transistor connected to the parameter output;

a second resistor-capacitor combination to produce a constant time delay when the second charging transistor is turned on;

a second discharging transistor to discharge the capacitor of the second resistor-capacitor combination when the second charging transistor is turned off; and

a second inverter connected between the parameter output and the second discharging

transistor.

8. (CANCELLED).

9. (ORIGINAL) A device to implant impurities into a semiconductor wafer according to claim 1, wherein the first ion gauge is used for high resist outgassing implants and the second ion gauge is used for low resist outgassing implants.

10. (CURRENTLY AMENDED) A device to implant impurities into a semiconductor wafer, comprising:

a base unit having a plurality of interfaces comprising an input to receive an implant recipe and an unused output to control a recipe parameter not used in both a high resist outgassing implant and a low resist outgassing implant;

an ion gauge controller provided in the base unit;

a beam gun to shoot ions at a semiconductor wafer;

first and second ion gauges; and

a switch to selectively connect either the first or second ion gauge to the ion gauge controller, the switch being activated by a trigger connected to the unused ~~interface~~ output of the base unit.

11. (WITHDRAWN) A method for a pair of ion gauges in a semiconductor wafer implantation device, the ion gauges being controlled through an ion gauge controller, the method comprising:

connecting a first delay circuit to a first control input in the ion gauge controller, the first control input activating one of the ion gauges when an on signal is supplied thereto;

connecting a second delay circuit to a second control input in the ion gauge controller, the second control input activating the other one of the ion gauges when an on signal is supplied thereto;

connecting the first and second delay circuits to a parameter output which produces a parameter signal based on a recipe selection;

positioning an inverter between one of the delay circuits and the parameter output; and

connecting a control output to each of the delay circuits such that the control output is switched between one of the control inputs, with a delay, depending on whether the parameter output is on or off.

12. (WITHDRAWN) A method for a pair of ion gauges in a semiconductor wafer implantation device according to claim 11, further comprising:

removing the first and second delay circuits; and

connecting a jumper between the control output and one of the control inputs.

13. (NEW) A device to implant impurities into a semiconductor wafer, comprising:

a beam gun to shoot ions at a semiconductor wafer inside a process chamber;

a first and a second pressure sensor to measure pressure around a location where the ions shot by the beam gun hit the semiconductor wafer, wherein the first pressure sensor measures pressures in a first predetermined range of pressures, and a second pressure sensor measures pressure within a second predetermined range of pressures;

an pressure sensors controller to supply power to, and obtains a pressure measurement corresponding to a number of ions implanted in the semiconductor wafer from, one of the first and second pressure sensor, the ion gauge controller comprising:

a first and a second control input respectively associated with the first and the second pressure sensor, such that when a control signal is supplied to one of the first and second control input, the pressure sensor controller supplies power to, and obtains the pressure measurement corresponding to the number of ions implanted in the semiconductor wafer from, the respectively associated first or second pressure sensor;

a control output to produce the control signal when either of the first and second pressure sensor is activated; and

a parameter output to selectively produce a parameter output signal based on a recipe selection;

a first delay circuit to connect the control output to one of the first and second control input, after a delay, when the parameter output signal is on; and

a second delay circuit to connect the control output to the other one of the first and second control inputs, after a delay, when the parameter output signal is off.

14. (NEW) The system to implant impurities in semiconductor wafers according to claim 13, wherein the second ion gauge is located on a gas pipe, which is connected to a pump to maintain a low pressure in the process chamber.

15. (NEW) The system to implant impurities in semiconductor wafers according to

claim 13, wherein the intensity of the beam of impurities is measured by a Faraday disk located inside the process chamber.

16. (NEW) The system to implant impurities in semiconductor wafers according to claim 13, wherein a plurality of semiconductor wafers are disposed on a disk that rotates having a rotation axis substantially parallel to the beam.

17. (NEW) The system to implant impurities in semiconductor wafers according to claim 16, wherein a distance between the rotation axis and the beam decreases or increases.

18. (NEW) The system to implant impurities in semiconductor wafers according to claim 16, wherein the disk has a disk slot to allow measuring the intensity of the beam passing therethrough.